

Single Crystal High Pressure Diffraction at the Advanced Light Source

Christine M. Beavers^{1,2}, Earl O'Bannon², Andrew Doran¹, Martin Kunz¹, Quentin C. Williams²

1 Advanced Light Source, Lawrence Berkeley National Laboratory, Berkeley, CA USA

2 Department of Earth & Planetary Sciences, University of California Santa Cruz, Santa Cruz, CA USA

Beamline 12.2.2 at the Advanced Light Source, which was previously optimized for high pressure powder diffraction only, has undergone the substantial addition of a dedicated single crystal diffractometer. Positioned upstream of the existing endstation, the new endstation consists of a Stoe Stadi Vari diffractometer equipped with a RDI CMOS detector. The system was configured with high pressure diffraction in mind: a small sphere of confusion (10 μ m), a sample weight capacity compatible with DACs (1kg), and a detector phosphor optimized for 25keV. System details and commissioning experiment results will be shared.